

REMARKS

The above Amendments and following remarks are responsive to all the points of objection and rejection raised by the Examiner in the Office Action dated February 18, 2003. Upon entry of this Amendment, claim 1 will have been amended, and claims 1-6 and 9-14 will be all the claims pending in the application, and claims 15 and 16 have been added. No new matter has been introduced by this Amendment. Entry and consideration of this Amendment are respectfully requested.

The attachment to this Amendment shows the amendments made to claim 1 by bracketing the text that has been deleted and underlining the text that has been added.

STATUS OF CLAIMS

In the Office Action, claims 1-14 are rejected under 35 U.S.C. §112, second paragraph as being indefinite for failing to particularly point out and distinctly claim the subject matter which the Applicant regards as the invention. Claims 1-10 are rejected under 35 U.S.C. §102 as being anticipated by Luciani (U.S. Pat. No. 4,794,493) or Nakata (U.S. Pat. No. 5,003,435).

RESPONSE TO §112 REJECTION

Claims 1-14 are rejected under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention. The Examiner stated that the term "notional rotation" in claim 1 is vague and indefinite. Accordingly, Applicant has amended claim 1 to remove the reference to "notional rotation." Thus, it is believed that the §112 rejection has been overcome and should be withdrawn. Additionally, Applicant has amended the specification to correct

several informalities.

RESPONSE TO §102 REJECTION:

Claims 1-10 are rejected under 35 U.S.C. §102 as being anticipated by Luciani (U.S. Pat. No. 4,794,493) or Nakata (U.S. Pat. No. 5,003,435). Applicant respectively traverses the rejection for the following reasons.

The present invention as recited in claim 1, is directed a low beam headlamp. The cut-off (the dark/light limit) of the low beam is delimited by two half-planes, which a shape (see Fig. 1) specific to U.S. regulations. The recurrent challenge when one has to generate a beam with a cut-off is to ensure the following: 1) that said cut-off is “clear”, i.e. that there is no light even in small quantity above the cut off line; and 2) that enough light will be available just below said cut-off line.

The goal of the present invention is focused on improving the repartition of light at the limit of the cut-off, notably just below the superior half plane. This goal is mainly achieved by modifying the reflector so that it presents a sector 10 specifically dedicated to bring more light at the limit of the upper of the two half-planes, in a way described in claim 1. As explained in the specification, the sector 40, obtained by rotation, brings back under the upper half plane some images from the light source which would otherwise have been above the cut-off. The light added this way at the limit of the upper half plane is not “taken away” from another zone below the cut off, and this improvement does not modify the light repartition elsewhere below the cut-off. The reflector is only very locally modified.

The specification notes as prior art French Pat. No. 2,602,306, which is in fact the French equivalent to U.S. Pat. No 4,794,493 to Luciani. What the invention and Luciani

have in common is the fact that they both use transversal lamps, which is why the French equivalent has been cited in the French search report. Luciani's teachings, however, are focused on the use of a two-filament lamp so that the headlamp can generate both low beam and high beam. This is quite different from the present invention. In the present invention, Fig. 2 and Fig. 6. show high beam curves. Conversely, Luciani is directed to the selection of the relative position of the two filaments (col. 3, lines 35-60). Additionally, in Luciani, the definition of the reflector given in col. 3, line 62 referred to a horizontal cut-off and it is conceived rather to be able to adjust discontinuity (col. 3, line 63). However, there is neither description nor suggestion of the sector 40, as in the present invention.

Nakata discloses a beam curve without cut off of a high beam kind, as shown in Fig. 5a. There is no hint as to select a specific sector of the reflector to add light at the border of the superior half plane of a U.S. low beam pattern.

Conversely, claim 1 of the present invention is directed to a low beam that includes a first sector (sector 40) obtained by rotation that takes certain images of the source below the upper half plane of the cut-off (page 2, liens 23-24 of the specification). This is a feature not believed to be taught or suggested by the prior art of record. Therefore, claim 1 is believed to be distinguishable over Luciani or Nakata, at least for the reasons noted above. Likewise, claims 2-6 and 8-14 are also believed to distinguishable over Luciani or Nakata based upon their dependency from claim 1.

CONCLUSIONS

In view of the above amendments and arguments, Applicant respectfully submits that all of the pending claims are patentable over the prior art of record, and are now in condition for allowance.

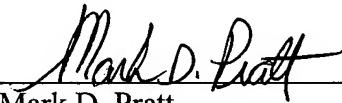
AUTHORIZATIONS

A check for \$110.00 is enclosed to cover the government fees for a one-month extension of time. The Commissioner is also hereby authorized to charge any additional fees associated with this filing to Deposit Account No. 13-4503, Order No. 1948-4766. Likewise, any overpayment is credited to Deposit Account No. 13-4503, Order No. 1948-4766.

Respectfully submitted,
MORGAN & FINNEGAN, L.L.P.

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By:


Mark D. Pratt
Mark D. Pratt
Reg. No.:45,794
(202) 857-7887 Telephone
(202) 857-7929 Facsimile

CORRESPONDENCE ADDRESS:

Morgan & Finnegan
345 Park Avenue
New York, NY 10154



Serial No. 10/023,315
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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant(s): Hervé PERRIN

Group Art Unit: 2875

Serial No.: 10/023,315

Examiner: Sember, Thomas M.

Filed: December 17, 2001

For: VEHICLE HEADLIGHT HAVING A REFLECTOR AND A HORIZONTAL LIGHT SOURCE TRANSVERSE TO AN OPTICAL AXIS OF THE REFLECTOR

ATTACHMENT SHOWING MARKUP OF CHANGES

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

Amendments made to specification and claim 1 herein are indicated in this attachment by bracketing the text that has been deleted and underlining the text that has been added.

IN THE SPECIFICATION

On page 3, lines 20-23, please note the following changes to the paragraph:

-the headlight is so arranged that all the [said] other sectors of the reflector generate a portion of cut-off beam which is entirely delimited by a horizontal plane at the same height as the lower of the two half planes;

On page 3, lines 24 to page 4, line 2, please note the following changes to the paragraph:

-the headlight is so arranged that, if the [said] first reflector sector were occupying its original position, i.e. its position before the said rotation took place as explained above, then the headlight would generate a cut-off beam which was entirely delimited by a horizontal

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plane lying at the height of the lower of the two said half planes;

On page 4, lines 4-5, please note the following changes to the paragraph:

-the [said] first reflector sector is at least partly beyond a lateral end of the light source as seen in front view on the reflector;

On page 4, lines 5-6, please note the following changes to the paragraph:

-the [said] first reflector sector has a vertical edge aligned with a lateral end of the light source;

On page 4, line 7, please note the following change to the line:

-the [said] first reflector sector lies in a lower half of the reflector;

On page 4, lines 8-10, please note the following changes to the paragraph:

-the [said] first reflector sector extends between an upper or lower edge of the reflector and an essentially horizontal plane passing close to the light source;

On page 4, lines 11-12, please note the following changes to the paragraph:

-the [said] first reflector sector has, in the front view on the reflector, a generally trapezoidal form with a generally vertically major axis;

On page 6, lines 5-12, please note the following changes to the paragraph:

The reflector has a horizontal plane PS passing close to the light source 6. The plane PS defines an upper zone 8 and a lower zone 10 of the reflector, and the latter has, in general

terms, a larger surface than the upper zone. Each zone is divided into a certain number of sectors, which are of generally rectangular form or (preferably) trapezoidal, with their major axis essentially vertical. In this example these sectors are numbered in pairs as 12 to [18] 28 in the upper zone, and 30 to 46 in the lower zone.

IN THE CLAIMS:

Please note the following changes to claim 1:

Please replace claim 1 with the following:

--1. (Amended) A vehicle headlight comprising: a reflector defining an optical axis, the headlight defining two horizontal half planes at different heights; and a horizontal light source oriented in relation to the reflector transversely to the said optical axis, the headlight being such as to generate a beam of light radiation from said light source reflected from the reflector, in which the light beam defines a cut-off delimited by the said half planes, wherein the headlight further defines a horizontal axis transverse to the said optical axis, the reflector being divided into a first sector and further sectors, the first sector being [obtained geometrically by notional rotation of the first sector about the said horizontal axis transverse to the optical axis, from an initial position in which the first sector is continuous with adjacent said further sectors without discontinuity, the first sector being] adapted to generate images situated below [at the limit of] the upper of the two said half planes delimiting said cut-off.

Claims 15 and 16 are newly added.